Outgoing
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State of Utah
DEPARTMENT OF NATURAL RESOURCES

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August 3, 2011

Dave Shaver, Manager
Genwal Resources, Inc.
P.O. Box 910
East Carbon, Utah 84520-0910

Subject: Change to Appendix 7-65, Genwal Resources, Inc., Crandall Canyon, C0150032 Task ID #3827

Dear Mr. Shaver:

On May 26, 2011 the Division of Oil, Gas and Mining (the Division) received a permit amendment from Genwal Resources Inc. (Genwal or the Permittee) with changes to Appendix 7-65 of the Crandall Canyon Mining and Reclamation Plan (MRP). This amendment was submitted to satisfy the abatement requirements for NOV 10073, issued to Genwal on February 16, 2011. The condition for which NOV 10073 was issued is:

The Permittee failed to comply with the terms and conditions of the approved Crandall Canyon Mining and Reclamation Plan (MRP). Commitments to provide summary/chronology information and operational costs associated with the mine-water treatment system at the Crandall Canyon Mine were not fulfilled. The information was not submitted for inclusion into the MRP within established deadlines.

The abatement actions for NOV 10073 are:

- *Submit the summary/chronology information of the mine-water treatment system (as outlined on page 11 of Appendix 7-65) for inclusion into the Crandall Canyon MRP by March l6th, 20l1. The submission must address outstanding deficiencies (listed for Experimental Treatment Design Information) identified in the February l6th, 2011 deficiency letter for Task ID #3714 and #3724 and be submitted under a notarized CI/C2 form.*

- *Submit an up to date summary of equipment costs and projected annual operations/maintenance costs for the current mine-water treatment system (as outlined on page 1l of Appendix 7-65) for inclusion into the Crandall Canyon MRP by March 16th, 2011 The cost information must be submitted in the example format provided (See Attached). Additionally, the cost information must address outstanding deficiencies*

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- *(relative to the mine-water treatment system costs) identified in the February 16th, 2011 deficiency letter for Task ID #3714 and #3724 and be submitted under a notarized C1/C2 form.*

The permit amendment received on May 26, 2011 does not satisfy the abatement actions for NOV 10073 because the deficiencies identified in the February 16, 2011 were not adequately addressed. Deficiencies have been identified (See Attached). Please submit your responses to the deficiencies by September 7, 2011.

If you have any questions, please call me at (801) 538-5325 or Steve Christensen at (801) 538-5350.

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/SKC/sqs
cc: Denise Dragoo
Price Field Office
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Crandall Canyon Mine
Task ID #3827
Deficiency List

The following deficiencies have been identified as outstanding and must be addressed prior to termination of NOV #10073:

Deficiencies Identified in the February 16th, 2011 Division Letter to Permittee:

Experimental Treatment Design Information

R645-301-120, R645-301-130, and R645-301-731 The Permittee must provide the following information, or state that the information is unavailable and provide the reason that the information was not collected:

Treatment Technology Screening

- Consultant reports and descriptions for technology screening, if any, prior to selection of oxidizer unit
- Oxidizer(Maelstrom) unit bench testing information
- Consultant reports from the three Geotube companies and one press company to which sludge samples were sent July 2010
- Consultant reports describing successful "Geobag" testing completed October 2010, including Geobag specifications, operating conditions, concentrations and types of additional treatment chemicals employed.
- Consultant report(s) for cyclone testing completed 11/5/2010 (type of cyclone and operation settings)

Chemical Additives

- Concentrations of treatment chemicals used:
    - 2/24/2010 - Sodium Hydroxide (NaOH)
    - 2/25/2010 - Nalco 7763 plus NaOH
    - 3/15-16/2010 - Nalco 7763 and Nalco 7888 (8187)
    - 3/19/2010 - Nalco 8158
    - 3/25/2010 - NeoSolutions 18100
    - 4/16/2010 - Nalco 8187
    - 10/20/2010 – Solve 151
- Consultant reports and analytical results for polymer testing results from Nalco and WaterSolve

Field Data and Lab Analytical Results

- Field measurements (sludge settling times, field-measured iron concentrations, turbidity measurements, etc.) used to evaluate treatment effectiveness

- Laboratory analytical results for samples analyzed to evaluate treatment effectiveness

Mine-water Flow Data

- Date that the flow meter used for Outfall 002 was first suspected or known to be malfunctioning.

Sludge Disposal

- Volume sludge sent to Crandall Sediment pond between July 19 and August 23, 2010
- Specific dates and volume of sludge sent to Crandall sediment pond November 2010.

R645-301-120, R645-301-731, and R645-301-728 Genwal must revise the amendment to identify: the concentration of flocculant prepared in the make-down unit; and the sludge recirculation rate being used under current operating conditions.

R645-301-731 Genwal must add a commitment that only treatment chemicals certified under NSF60 will be utilized for the mine water treatment system, and Genwal will monitor the dosage rate (in mg/L) for all treatment chemicals used. Genwal will monitor treated water for carryover of treatment chemicals on a monthly basis or when dosage rates or chemical products are changed. Dosage rates will not exceed the NSF60 certified concentrations without a prior demonstration to the Division, Forest Service and DWQ that elevated dosage rates are acceptable based on analytical results for treated water samples.

R645-301-742.230 Genwal must revise Appendix 7-65 to identify the approximate clean out frequency under current operating conditions (i.e., quarterly) and include criteria used to determine when clean out will be performed, e.g., prior to sludge accumulation in the settling basin cell closest to the outfall.

R645-301-731 The Permittee must revise the Maintenance Section of Appendix 7-65 to remove references to a "mechanically simple system" and to demonstrate that necessary repairs to any of the pumps, chemical injection systems, flow meters, or piping can be accomplished within the 8-hour window available by routing untreated mine water to the settling basin.

R645-301-731.200 The Permittee should remove from Appendix 7-65 discussion of ongoing baseline water monitoring associated with the mine water discharge and groundwater seepage from the highwall face and update Section 7.31.2 of the MRP, as appropriate, to describe ongoing baseline monitoring. Monitoring associated with water treatment system performance, including analysis for treatment chemical residuals should be included in Appendix 7-65.

R645-301-121.100 The Permittee must update Appendix 7-65 Attachment 8 (Construction Specifications and Drawings) to describe the installation of all aspects of the water treatment system, including the seven pumps, two chemical injection systems, two flow meters and associated piping and controls. The Permittee must also include the revised Iron Treatment Facility As-Built Plan (Sheet 1 from the November 30, 2010 submittal) and correct the number of fabric curtains shown in the Process Flow Diagram Figure.

Outstanding Summary/Chronology Information as Outlined on Page 11 of Appendix 7-65:

A summary/chronology of the experimental process that led to the final design including:

A summary of the various treatment methods that were examined/tested.

A discussion as to the chemical additives that were employed during the trial and error process. The discussion shall include the ratios of chemicals that were utilized in the various test configurations as well as the corresponding water quality results.

An up to date tabulation of the mine-water flow data that was been collected since the installation of the AVF Flow Meter.

The field data and lab analytical results that were obtained during the various test configurations/water treatment approaches that were explored.